TROUBLESHOOTING

If your system is not working properly please work through this checklist before returning a unit to your dealer. Before investigating a problem, always switch off the system at the mains.

Symptom	Possible Cause
No Sound	System not switched on; Speaker cables shorting terminals out; Wrong source selected
Sound lacks bass content Bass reproduction indistinct	Subwoofer not switched on; Subwoofer phase incorrect; Subwoofer crossover control too low
Excessive bass distortion at low volumes	Subwoofer level set too high; LFE level set too high; Subwoofer incorrectly wired
Excessive or distorted bass at high levels	System level set too high; Bass control set too high; Subwoofer too close to room corners
Distorted or rattling sounds at high levels	System level set too high; Objects placed on subwoofer; Objects too close to subwoofer
Subwoofer will not respond to commands	Handset batteries weak; handset too far away; line of sight is impeded
Popping or thumping from the subwoofer	System level set too high; Subwoofer level set too high; LFE level set too high
Indistinct sound; Poor localisation of effects. Poor localisation of dialogue	One or more loudspeakers is out of phase (Read the manual for correct connection procedure)
Television picture colour is distorted	Subwoofer too close to TV. (Switch off system and TV. Move units away. Leave 15 mins. Switch on)

SPECIFICATIONS

	SW 300 Subwoofer
Drive Unit	300mm (12“)
Amplifier Power	300 W RMS
Input Impedance **(Line input)**	10kΩ
Low Pass Filter Range	35 - 85 Hz (10Hz steps) + Bypass
Frequency Response (Boundary position)	25 - 90 Hz (-6dB)
Phase Adjustment	0° - 180° switchable
Maximum SPL (ref 1m)	114 dB
Dimensions Overall H x W x D mm H x W x D inches	 520 x 390 x 450 20.5 x 15.4 x 17.7

Performance and specifications subject to alteration

AUTHORISED SERVICE CENTRES

UK

Wharfedale International Ltd.
IAG House, Sovereign Court,
Ermine Business Park,
Huntingdon,
Cambs PE29 6XU,
England.
Tel:+44 (0)1480 447700
Fax: +44 (0)1480 43176

USA

IAG America, Inc.
15 Walpole Park
South
Walpole
MA 02081

CANADA

Korbon Trading Ltd
6800 Kitimat Road
Units 19-20
Mississauga
Ontario
Tel: +1 905 567 1920

For information on other authorised service centres worldwide contact Wharfedale International in the U.K.

A worldwide distributor list is available on the Wharfedale website:

www.wharfedale.co.uk

The name ‘WHARFEDALE’ is a registered trademark of Wharfedale International Ltd.

Wharfedale has a policy of continuous product development and reserves the right to change specification without notice.

Wharfedale is a member of the International Audio Group.

COMPLIANCE

This Wharfedale product complies with the relevant clauses enshrined in the following standards and directives in force at the time of the introduction of the product.

- **EU Directives:** 89/336/EC, 72/23/EEC**: Safety:** EN60065 (CB Scheme)**: Emissions:** EN55013, EN61000 **Immunity:** EN55020:2002.
- **USA:** UL 6500:2002. Approved under the verification provision of FCC Part 15 as a Class B Digital Device.
- **CANADA:** CAN/CSA-E60065-00

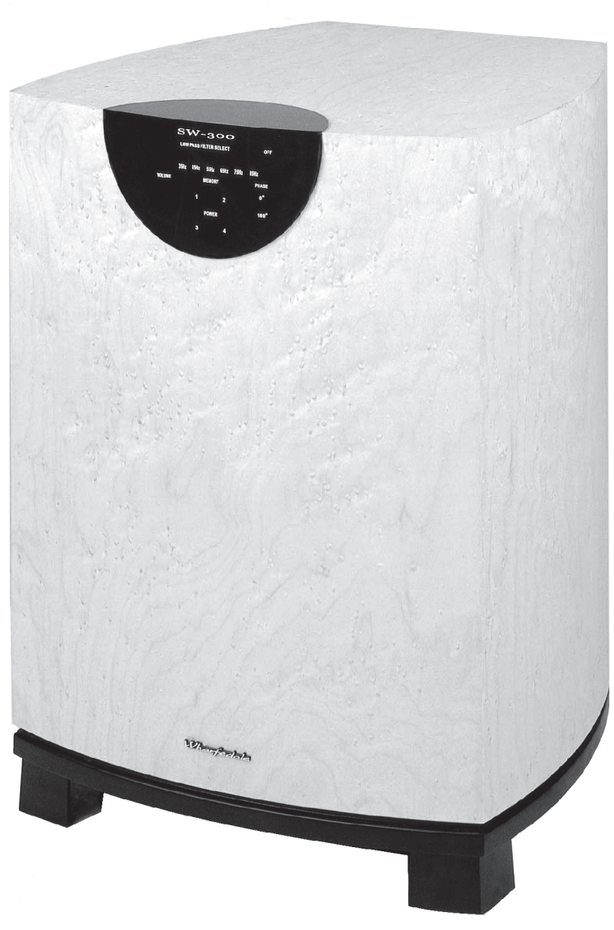
Wharfedale

S300man Iss 1 0904

SW 300

Powered Subwoofer

Instruction Manual



Wharfedale

BRITAIN'S MOST FAMOUS LOUDSPEAKERS

IMPORTANT SAFETY INFORMATION

Read these instructions.
Keep these instructions.
Heed all warnings.
Follow all instructions.
Do not use this apparatus near water.
Clean only with dry cloth.
Do not block any ventilation openings.
Install in accordance with the manufacturer's instructions.
Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only attachments/accessories specified by the manufacturer.

Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning: To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture. The product must not be exposed to dripping and splashing and no object filled with liquids such as a vase of flowers should be placed on the product.

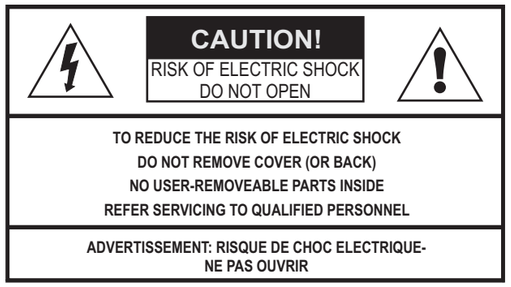
No naked flame sources such as candles should be placed on the product.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.

Warning: The mains power switch for this appliance is located on the rear panel. To permit free access to this switch, the apparatus must be located in an open area without any obstructions.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.


CAUTION!
RISK OF ELECTRIC SHOCK
DO NOT OPEN
TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-REMOVEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL
ADVERTISSEMENT: RISQUE DE CHOC ELECTRIQUE-
NE PAS OUVRIR

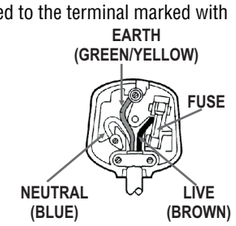
This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

ESSENTIAL INFORMATION FOR UK USERS

The power cord on your subwoofer may be supplied with a plug incorporating a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced, an ASTA or BSI approved BS1362 fuse must be used of the same rating. If the plug is cut off it must NOT be re-used. Dispose of any such plug safely. There is a danger of electric shock if a cut-off plug is inserted into a mains socket.

The wires in the mains lead are coloured in accordance with the following code: Green and Yellow - Earth: Blue - Neutral: Brown - Live.
As the colours of the wires in the mains lead may not correspond with the markings identifying the terminals in the replacement mains plug, proceed as follows:
The wire coloured Blue must be connected to the terminal marked with the letter "N" or coloured Black. The wire coloured Brown must be connected to the terminal marked with the letter "L" or coloured Red. The wire coloured Green and Yellow must be connected to the terminal marked with the letter 'E',or coloured Green, or Green and Yellow, or marked with the Earth symbol ⏚



GENERAL GUIDANCE

DO NOT connect the mains power to any signal input terminal on the subwoofer Control Panel.

DO NOT change any connections to the subwoofer without first switching off the power to all the components in your AV system. ALWAYS turn down the volume control on your amplifier or receiver before turning the equipment on or off.

DO NOT use your amplifier at its maximum volume setting. The resulting distortion may damage your loudspeakers and subwoofer. The position of the Volume Control on your amplifier is NOT a reliable guide as to 'how loud' your equipment will play. Allow your system ample 'headroom'.

Do not operate your subwoofer closer than 450mm from the TV to avoid distorting the colour picture. If this occurs, switch the TV set off. After 15 minutes switch on again: colour balance should now be restored.

To minimise hum and mains interference ensure that low level (line level) signal cables are well screened. Avoid routing low-level signal cables close to or parallel with mains power wiring.

SETTING UP TWO SUBWOOFERS

General notes

Site the subwoofers so that they enhance the system bass response but do not cancel each other out.

- A well-sited pair of subwoofers for stereo applications will be adequately sited for Home Cinema applications.
- A second subwoofer raises the bass output level 6dB when operating in Home Cinema but not in Stereo.
- Both subwoofers should be in line of sight to the listening seat as both answer to one remote handset.
- When operating two subwoofers, do all setups and operations on one handset When allocating presets make sure that the same preset (e.g. Home Cinema on preset 1) is allocated to each subwoofer.

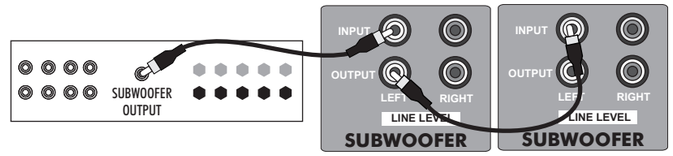
Home Cinema:

- As AV Processors produce a common subwoofer channel, considerations of Left and Right do not apply, but with spaced subwoofers each helps to fill in the troughs caused by in-room standing waves, smoothing the bass and giving the sound greater intensity, 'air' and depth.
- Set up the position of each subwoofer separately with the other one switched off. After you have set both subwoofers up, reduce the front panel volume level of each subwoofer by 3 points. Complete the final adjustment with both subwoofers switched on. You may need to make some small adjustments to the position of each sub for best results. We suggest you enter this final setting as a Home Cinema preset.

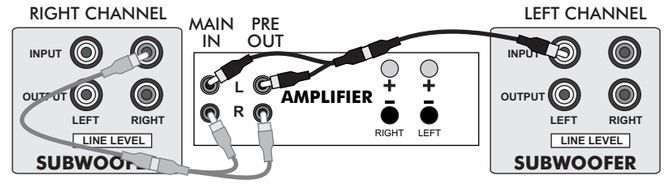
Stereo:

- Each subwoofer should be located as near as possible to its partnering loudspeaker. The smaller the main speakers, the more necessary this becomes.
- It is easier to set up each subwoofer with a mono source playing through one channel with the other channel turned off.
- Complete the adjustment by ear using a mono source with both channels and subwoofers operational. We suggest you enter this setting as a Stereo preset.

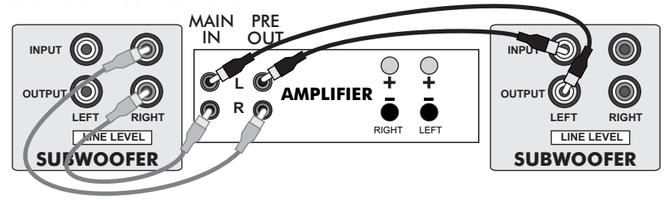
HOME CINEMA LINE CONNECTION



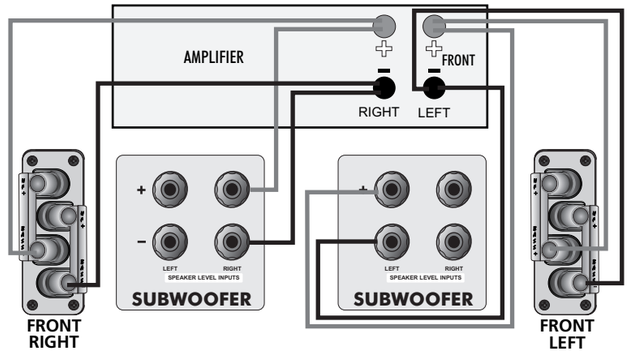
STEREO LINE CONNECTION A



STEREO LINE CONNECTION B



HIGH LEVEL SPEAKER CONNECTION



CARE AND MAINTENANCE

The loudspeaker cabinets can be cleaned with a damp cloth or with a spray furniture polish and a soft cloth. Apply the spray sparingly to the cloth and then polish the cabinet. Never apply spray directly to the cabinet.

GUARANTEE & SERVICE

In the unlikely even that your unit develops a fault you should return it to your Wharfedale dealer using the original packing to ensure safe shipping.

The terms of your guarantee may vary from country to country but in all locations the guarantee excludes:

All damage caused through accident, misuse, wear and tear, neglect, incorrect installation, adjustment or repair by unauthorised personnel.

Liability for damage or loss occurring in transit to or from the purchaser.

Wharfedale will not be liable for any consequential damage, loss or injury, arising from or in conjunction with this equipment.

Wharfedale

The subwoofer has to blend with the main speakers: if you place the subwoofer where it amplifies the irregularities of the room or the main speakers the result will be bloated, coloured bass. If acoustic guitar and male voice sounds coloured when the subwoofer is operating and less coloured when in standby, you need to address the positioning first before adjusting any controls.

Loudspeaker Phasing

Make sure that all loudspeaker channels are connected in phase. Nothing is more certain to defeat a Home Cinema or Stereo setup involving a subwoofer than one(or more) channels being out of phase. In Stereo, if there is a doubt about the way the loudspeakers are connected, check their phasing by playing a mono source - the sound should appear from a point midway between the two loudspeakers. If this position is indefinite, reverse the connections to one of the loudspeakers. Correctly connected loudspeakers give a definite centre sound source with fuller bodied tenor and bass registers.

Setting the Phase of the Subwoofer

Phase at very low frequencies is not straightforward to detect. Initially we suggest you temporarily set the low pass filter to 'OFF' and the phase to 0º and play some bass heavy music in Stereo through the main speakers and the subwoofer. From the listening position, switch the phase between 0º and 180º. The setting which appears to give the greater bass output is correct. Now follow the instructions below for setting the low pass filter.

Home Cinema Systems

Low Pass Filter

If you are using a digital AV processor the initial setting should be 'OFF' as the processor will have its own bass management system. Most digital AV Processors ask you to specify the size of speakers in the various channels. These are usually 'Large' or 'Small'. This sets the bass management for the system. Unless your loudspeakers are large floor standing units, you should choose 'Small' for the Front channels, as the subwoofer is going to be better at providing clean, deep bass. Choose 'Small' for the surround channels and also for the Centre channel, so that any bass from these channels will be directed to the subwoofer. Set the 'Subwoofer' option on the processor to ***'On' or 'Yes'.***

After experimenting with various sources you may need to adjust the LPF settings. The goal is to ensure the subwoofer blends seamlessly into the sound stage. Setting the subwoofer to Standby should reduce the bass extension, not change the bass level - as always personal taste plays an important part.

Setting levels

Once the loudspeaker settings have been finalised, put the AV amplifier into its "Test" mode (see instructions supplied with your processor.) Adjust the levels until all channels are reproduced at equal loudness. When adjusting the subwoofer output level avoid setting too high a level or you will swamp the sound with bass which is tiring to listen to and may limit the subwoofer's ability to respond to large bass transients. Set a sensible level going into the subwoofer from the processor. The volume display should be around 50 at normal listening levels.

LFE

This channel was originally an additional bass channel with its own dedicated subwoofer. In practice however, if any speakers are set to 'Small', the LFE channel is combined with the bass from those channels and fed into the subwoofer. When you set the LFE level from your AV processor, use care as the LFE channel contains powerful low frequencies which, although normal in a cinema, may overload a domestic subwoofer. If, during a programme, you hear popping or thumping noises from the subwoofer, turn the AV Processor volume level down and back off the LFE level. If this does not cure the problem, lower the subwoofer volume level.

Note: If any channels are set to 'Small' the subwoofer must be on when the system is playing otherwise there will be reduced bass , as well as no LFE.

Stereo reproduction

Low Pass Filter: The low pass filter should be set having regard to the size and low frequency extension of the main speakers. The role of the subwoofer is to extend the bass response of the system not to increase the overall bass level. If the loudspeakers are large the LPF should be set low, a value around 45-55 Hz is a good place to start. With smaller speakers this can be increased, up to 85Hz for very small bookshelf units. As always the final value is determined by listening.

Low-level listening

Our ears are far more sensitive to midrange frequencies (2-5 kHz) than bass frequencies. Very low bass and especially percussive bass is 'felt' rather than heard. At low sound levels bass frequencies appear to attenuate faster than midrange and treble. As the level increases this bass roll-off decreases and at loud volumes is negligible. The pioneering work was done in the 1930's by Fletcher and Munson who produced a series of 'Equal Loudness Contours'. Occasionally we may wish to listen to a normally loud piece of music at a low level but with retention of the bass information. There may be a case for assigning a preset for low level listening where the subwoofer volume is set somewhat higher and the LPF is set a little lower - as always this is for individual judgement.

Testing the system By Ear

The simplest way to test the system is to play, at a moderate level, music with deep consistent bass. Switching the subwoofer in and out of Standby should cause change of the depth of bass, and the ambience will also alter. If there is a significant change in bass volume, or a noticeable step in the bass response, or an increase in coloration when the subwoofer is playing, the setup needs to be refined further. By entering different settings in different presets, you will be able readily to identify the most favourable combination.

Using an SPL Meter

This is done with a test disc or signal generator and is beyond the scope of this handbook except to observe that SPL meter settings are weighted 'A', 'B' and 'C' - these correspond to the inverse of the Fletcher-Munson Equal Loudness Contours at 40, 70 and 100dB. For normal listening levels the SPL meter is usually set to 'C' and the response set to slow. If you wish to use this setup method you should definitely seek your dealer's advice beforehand.

Wharfedale

Loudspeaker Manufacturers since 1932

In 1932, when Gilbert Briggs founded the Wharfedale Wireless Works, his company was at the leading edge of an exciting new technology which was dedicated to bringing the pleasure of music and entertainment to a wide range of people. As the technology advanced Wharfedale gave many music lovers their first taste of High Fidelity, mounting a series of live sound demonstrations which excited the audio world and heralded the era of the modern hi-fi loudspeaker.

Today Wharfedale still takes the same uncompromising approach to the design and manufacture of every loudspeaker system, using high quality components and state-of-the-art testing to ensure consistently high performance. And that means that you can continue to count on the quality of all Wharfedale products.

PRELIMINARIES

Open the carton and remove all the top packing pieces. Lift the subwoofer out taking care not to damage the cabinet. When lifting the unit from the carton support it from the bottom. DO NOT attempt to lift the subwoofer out of the carton using the polythene bag. The unit is heavy; if you cannot manage it easily, get someone to assist you.

Retain the packing materials for future use or return them to your dealer. If you decide not to keep the packing, please dispose of it having regard to any recycling regulations in your area.

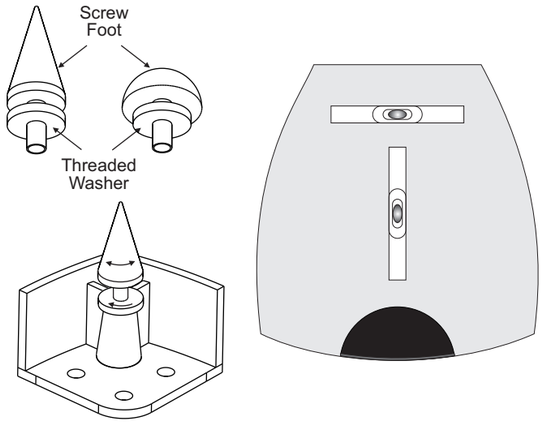
Please retain the user manual and the purchase receipt for future reference. If you transfer this equipment to a third party, please ensure all the instructions are passed on with the product.

Fitting the feet

Carefully invert the subwoofer. Protect the top by placing it on a soft surface such as a towel. Open the polythene bag and slide it part-way down the cabinet.

The subwoofer is provided with two short spikes and two long spikes.

The longer spikes have an adjustable top cap for levelling. Fit the spikes as shown. When all four screw feet have been fitted, stand the subwoofer upright and remove the bag.



Tighten the front feet with a suitable wrench. With the aid of a spirit level, screw each rear foot in and out until the subwoofer is level (side to side and front to back) and firmly supported on all four feet. Tighten each rear foot to its top cap with a suitable wrench to lock the assembly in position.

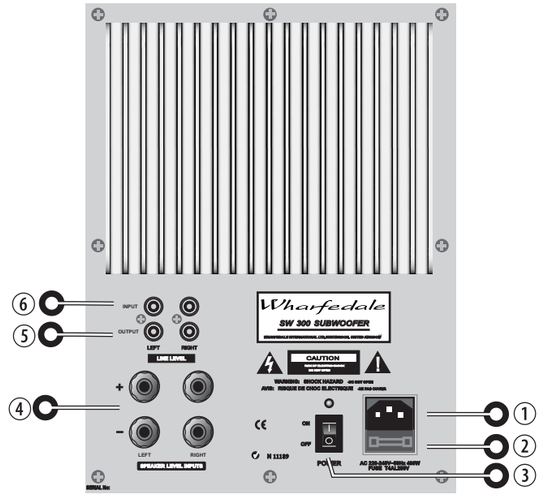
Note: When using spiked feet take care not to drag the subwoofer and be careful not to pierce objects or cables which may be under carpets, etc.

INSTALLATION

Positioning the subwoofer

Although the unit may be placed almost anywhere in the room, we recommend that is placed in front of the listener central to the listening position. There should be a mains outlet within easy reach. There should be a line of sight between the listener and the front of the subwoofer otherwise the remote functions will not work. We suggest you initially position the subwoofer about 20cm (8 inches) from the wall. Placing it close to the wall will increase the bass; placing it across a room corner will increase the bass further, possibly at the expense of clarity. Do not place the subwoofer close to surfaces or objects that may rattle. The floor under the subwoofer should be sound. Experiment with a variety of locations and sources before making a final decision. *See Pgs. 4 and 5.*

REAR PANEL CONNECTIONS



1. Mains Input
2. Mains Fuse
3. Mains Power Switch
4. Speaker (High) Level Inputs
5. Line Level Outputs
6. Line Level Inputs

Connecting the Subwoofer

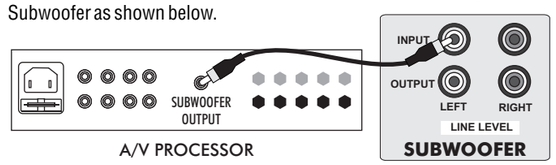
Power Connections

Before connecting your subwoofer check that the mains voltage marked on the amplifier panel is correct for your mains supply.

- 230 volt products - 220 volts to 240 volts
- 115 volt products - 110 volts to 120 volts

Connecting to a Digital AV processor

If your AV processor has a line level or LFE subwoofer output you should use this connection. You will need to purchase a single screened RCA phono lead from your dealer. Connect this lead to the Left line input of the Subwoofer as shown below.



A/V PROCESSOR

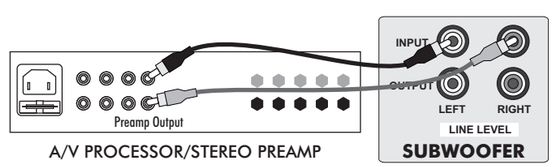
Stereo Line Level Connections

Stereo line level connections will be necessary where there is no dedicated single subwoofer output, but where there is either :

- A stereo subwoofer line output or a separate preamp output.
- In stereo systems where there is a suitable preamplifier line output, or if an integrated amplifier, a pre/main link that can be separated.

The output must be controlled by the system volume control - a tape output is *not* suitable. If you are in doubt, consult your dealer.

Stereo Connections: Connect a stereo RCA phono cable from the line output of the preamp to the Subwoofer line inputs.



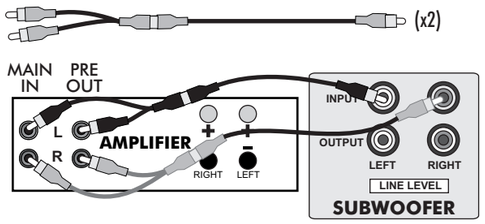
A/V PROCESSOR/STEREO PREAMP

Pre Out - Main In Connections

If you use a separate stereo pre and power amplifier, or an amplifier where the pre and main amplifier can be separated, connect the sub-woofer as shown. There are two alternative methods.

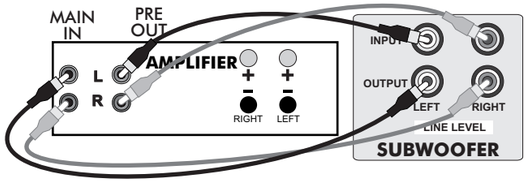
A: You will need two screened RCA 'Y' adaptors and two single RCA phono cables.

Remove the Pre-Main links on your amplifier. Connect the socket (common) of an RCA 'Y' adaptor to one of the mono cables. Connect one leg of the 'Y' adaptor to the Left Channel Pre Out socket on the amplifier and the other leg to the Left Channel Main In socket. Connect the remaining plug of this combination to the Left Channel Line Level Input on the sub-woofer. Repeat this for the Right Channel.



B: You will need two stereo (or four single) screened RCA cables.

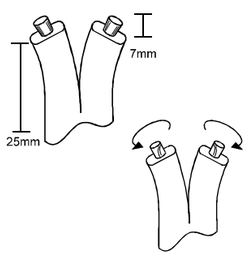
Connect a Stereo cable from the Line Level Inputs of the sub-woofer to the Pre Out sockets of the amplifier. Now connect a second Stereo cable from the Line Level Outputs of the sub-woofer to the Main In sockets of the amplifier. Make sure that the Right and Left Channels are not mixed up! The sub-woofer is now inserted within the system loop.



Speaker Level Connections

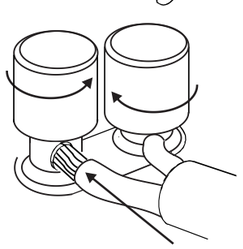
The high level Speaker connections should be used only if your amplifier does not have a line level subwoofer output. In this connection the subwoofer is fed together with the Front loudspeakers. For this you will need two extra twin core cables.

Choose a good quality audio speaker cable of reasonable size. Avoid using cheap 'bell' or 'zip' cables. Audio speaker cable has a polarity stripe or rib along one conductor to simplify connecting your speakers.



Split the cable at each end to a depth of 25mm. Strip about 7mm of insulation from each end and lightly twist to gather the wire strands.

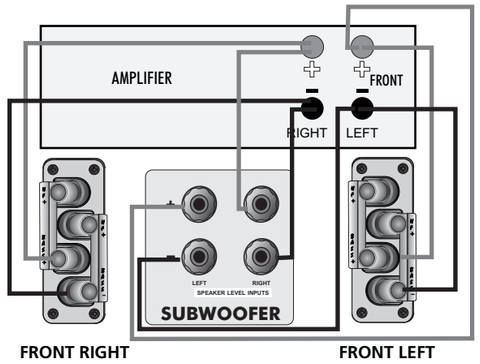
The Speaker Level connectors are screw terminals located on the control panel. Unscrew a terminal and insert the cable into the hole at the base. Re-tighten the terminal securely. Make sure that the terminal grips the bare wire and there are no loose strands which could touch adjacent terminals.



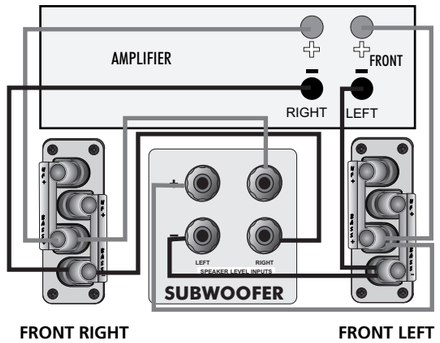
There are two methods of connecting the subwoofer:

A: Ensure the Front loudspeakers are correctly connected.

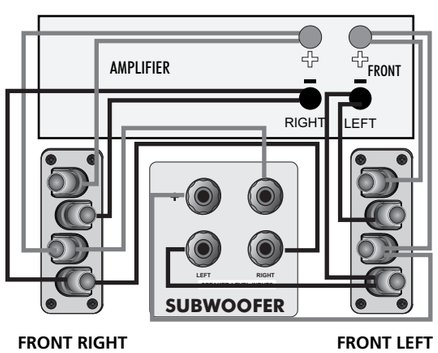
Using one of the additional twin core cables, connect the Left Speaker Terminals on the sub bass unit to the Front Left speaker terminals on the amplifier. Connect the Red (+) speaker terminal on the amplifier to the Red (+) terminal on the subwoofer. Connect the Black (-) speaker terminal on the amplifier to the Black (-) terminal on the subwoofer. Now connect the Right Speaker terminals on the subwoofer to the Front Right speaker terminals on the amplifier.



B: Alternatively you may connect the subwoofer to the Front speakers.



If your speakers are bi-wired: You should ensure that you connect the subwoofer to the BASS terminals ONLY.

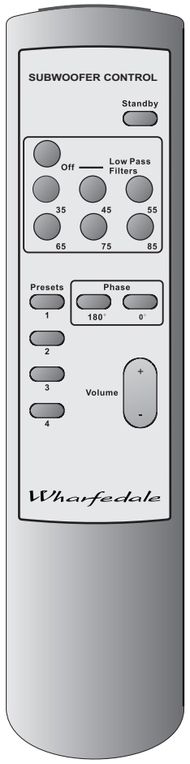


When routing any cables to loudspeakers do not run them across open floor spaces where they may cause danger to people and pets. Route them safely, around room boundaries if necessary.

OPERATING YOUR SUBWOOFER

Remote Handset

All control functions are carried out using the remote handset.



Installing batteries

The handset operates on two LR6 (AA) batteries which are supplied. The battery compartment is located at the rear of the handset. Unwrap the batteries and slide the cover off the handset. Place the batteries in the handset, the correct orientation is shown on the diagram. When the batteries are installed, replace the cover.

Switching on the Subwoofer

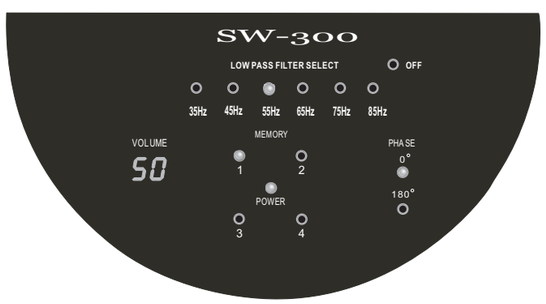
Check that all the connections to the subwoofer have been properly made and that the system volume control is at minimum. Plug the supplied power cord into the mains socket on the rear panel. Plug the mains plug into the wall socket and switch the power on. Now switch the subwoofer on with the rest of your system. The subwoofer on/off switch has a rocker action; press the upper part to switch the equipment on and the lower part to switch it off. When switched on the light above the power switch will glow and the subwoofer will be operational.

Operation - Controls and Functions

Control functions are carried out using the remote handset. To operate, the handset must be pointed at the subwoofer and be in direct line of sight.

Standby: The Standby key brings the subwoofer in and out of Standby.

The drawing below shows a typical front panel display during operation.



The preset light will not light if no preset has been set up or if a preset has been over-ridden.

In Standby mode all the lights on the subwoofer front panel are extinguished. The rear panel light remains on to show the unit is powered.

Volume: Press the Volume + key to increase the volume level. Press the Volume - key to decrease the volume level of the subwoofer. The volume range on the front panel display varies from 00 (minimum) to 99 (maximum).

Low Pass Filters: Pressing the appropriate filter key will select the frequency at which the subwoofer rolls off. The filter has steps at Off and 35Hz-85Hz in 10 Hz increments. When 'OFF' is selected the subwoofer operates over its full designed range. Pressing other keys lowers the maximum operating frequency. The Low Pass Filter value should be chosen having regard to the nature of the Front speakers and programme material. Follow the Setup Notes on Page 6 and the instruction manual of your AV processor (if used) for more guidance.

Phase: This key toggles the subwoofer between 0º and 180º phase shift.

Presets: Four different settings of level, frequency and phase can be stored. Pressing and holding any of the preset keys on the remote for 3 seconds will cause the current settings to be stored in that preset. The display will show the preset number then flash the preset number once to show it has stored the preset.

To change from one preset to another, press a preset key on the remote for less than 3 seconds to recall the settings of that preset. The display will show the preset number:

If you select a preset and then alter any aspect of the setup, the preset light will extinguish (as the setup no longer matches the preset).

Note: When brought out of standby for the first time, the unit will display the factory presets. Thereafter, bringing the unit out of standby will revert it to the operational state last used. If you switch the power on and off at the rear panel while the unit is in standby, the unit will power up to a normal operating state (i.e. not in standby). To enter standby, again press the Standby key.

SETTING UP YOUR SUBWOOFER

General Notes

Your subwoofer is most likely to be used with two typical programme sources, music and movies. The setup for these two very different sources may be different if best results are to be achieved. Please read these setup notes in conjunction with your processor and speaker manuals.

Setting up of the subwoofer should be performed with all tone controls and filters on the AV processor 'flat'.

Listening Rooms and Subwoofer Positioning:

Listening rooms are not ideal. Most rooms are reverberant with some parallel walls. Because of room geometry and construction there will be areas with severe peaks at some frequencies and severe troughs at others. These peaks and troughs are called 'standing waves' and if you site loudspeakers in such areas the response will be highly non-linear. With subwoofers this situation is exacerbated by the fact that it is easier to treat high frequency irregularities by the use of drapes, soft furnishings etc., but very hard to do the same at bass frequencies due to the very long wavelengths - at 40 Hz the wavelength is almost 9 metres!

To help locate standing waves in your listening room, one idea is to sit in the listening seat and recruit a friend with a deep voice to speak as he moves around the area where you propose to site your subwoofer - you will soon find out where not to site it! Where the voice sounds most natural is a good place to start.

The low frequency response of the subwoofer and its blend with the main loudspeakers is greatly affected by positioning. Although bass is enhanced by walls or corners, so often is coloration. As the drive unit faces downward, the floor will influence the sound. The surface under the subwoofer should be stable and unobstructed. If the carpet is thick, consider placing the subwoofer on a solid surface such as a marble slab.